

Spring aspect of the pterygot insect fauna of Mutki (Bitlis Province, South East Turkey)

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Abstract: Spring aspect of the pterygot insect of Mutki (Bitlis Province, South East Turkey). *Cesa News* 58: 1-78, 150 figures, 1 graph.

In this paper, faunistical, ecological, biological and ethological notes on the spring insects of Mutki (Bitlis Province, South East Turkey) are given. Some pterygot species recorded by the authors in Mutki district are mentioned. Totally 76 species (except Lepidoptera) are listed with their synonyms. Most of them are illustrated under natural conditions. For this purpose 150 original photographs are used. Many species are recorded newly for the fauna of Bitlis Province. Several species are given as new to the fauna of Turkey. Total species of pterygot fauna of Bitlis Province increased to 954. The Lepidoptera species recorded in Mutki are usually excluded for the purpose of a separate publication. However, some bionomical information and early stages of the lepidopteran species are mentioned and illustrated. In the present paper, recorded 111 pterygot families in the district Mutki are as follows: **Ephemeroptera:** Ecdyonuridae, Heptageniidae, Palingeniidae; **Plecoptera:** one family; **Odonata:** Aeshnidae, Coenagrionidae, Gomphidae, Libellulidae; **Orthoptera:** Acrididae, Pamphagidae, Tettigidae, Tettigoniidae, Tridactylidae; **Dermaptera:** Forficulidae; **Hemiptera:** Alydidae, Coreidae, Gerridae, Hydrometridae, Lygaeidae, Miridae, Pentatomidae, Reduviidae, Rhopalidae, Saldidae, Scutellaridae; **Homoptera:** Aphidae, Cercopidae, Cicadellidae, Membracidae; **Planipennia:** Ascalaphidae, Chrysopidae, Myrmeleondidae, Raphidiidae; **Trichoptera:** three families; **Lepidoptera:** Adelidae, Arctiidae, Argynnidae, Ethmiidae, Gelechiidae, Geometridae, Gracillariidae, Hesperiidae, Lasiocampidae, Lycaenidae, Lymantriidae, Noctuidae, Oecophoridae, Papilionidae, Pieridae, Plutellidae, Psychidae, Pterophoridae, Pyralidae, Satyridae, Sphingidae, Tortricidae, Zygaenidae; **Diptera:** Anthomyiidae, Asilidae, Bibionidae, Bombyliidae, Calliphoridae, Cecidomyiidae, Conopidae, Empidae, Limoniidae, Micropezidae, Muscidae, Opomyzidae, Rhagionidae, Sciaridae, Sciomyzidae, Syrphidae, Tabanidae, Tachinidae, Tephritidae, Tipulidae; **Hymenoptera:** Argidae, Apidae, Braconidae, Cynipidae, Eulophidae, Eumenidae, Formicidae, Ichneumonidae, Pompilidae, Pteromalidae, Scoliidae, Tenthredinidae, Vespidae; **Coleoptera:** Attelabidae, Buprestidae, Cantharidae, Cerambycidae, Chrysomelidae, Cicindelidae, Cleridae, Coccinellidae, Curculionidae, Dasytidae, Dermestidae, Elateridae, Glaphyridae, Meloidae, Melyridae, Mordellidae, Scarabaeidae, Staphylinidae, Tenebrionidae.

Key words: Fauna, ecology, biology, ethology, list, Turkey, Bitlis, Mutki, *insecta*, *pterygota*.

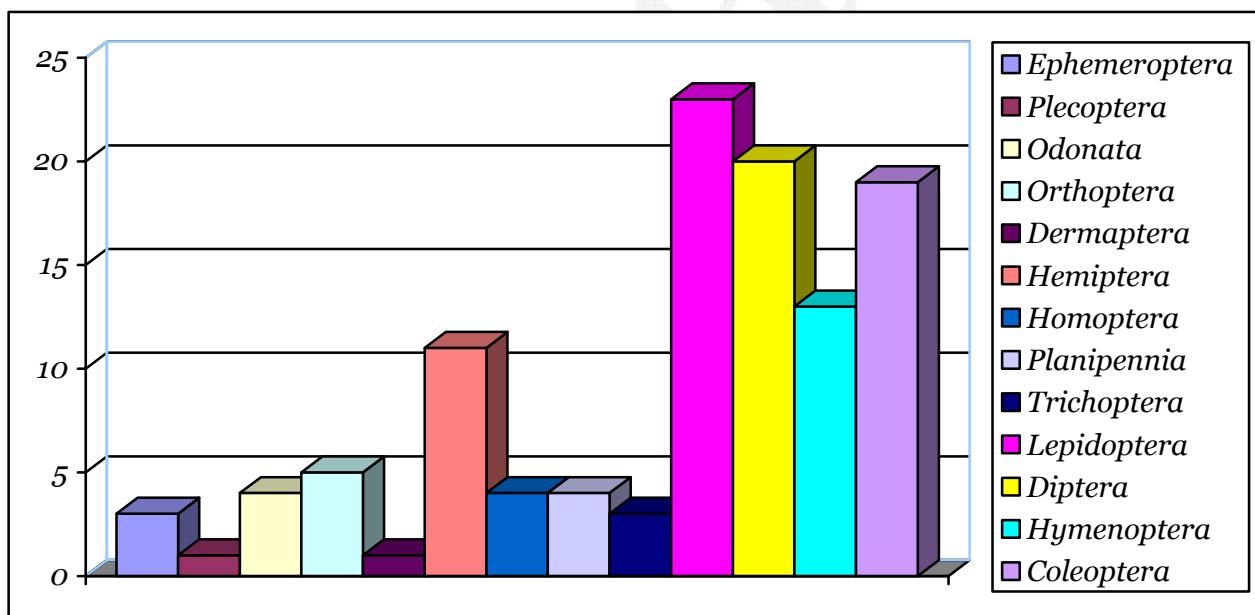
Between March and May of this year, first two authors visited Mutki for organisation of a long-termed research program together with the administrative and military staffs taking the present situation of the security in the remote areas of the district into consideration. Under the limited circumstances, field studies have been carried out. The last four authors participated partly to the studies in Mutki.

In the literature of Insecta, there is no publication on the fauna of Mutki. Therefore, our attempt is the first one on this subject.

The aim of the present publication is to reflect the spring appearance of the pterygot fauna of Mutki as well as the field activities of the authors as usual. In the field studies of the spring of 2010, totally 111 pterygot families of 13 insect orders are recorded. Numbers of the representative species of Turkey used in the following 13 orders are based upon info-system of the Cesa.¹

Brief evaluation of the spring aspect of the pterygot fauna of Mutki

Proportions of the totally recorded 111 families are shown in the following graph. The major 5 orders with their represented families are *Lepidoptera* (24), *Coleoptera* (19), *Diptera* (20), *Hymenoptera* (13), and *Hemiptera* (11). The first four orders are holometabola, while the latter belongs to hemimetabol group.



Faunistically, all the records mentioned below are new to Mutki! Numerous species are new to Bitlis fauna. Some of them are mentioned in the explanations of some images. Total number of the pterygot species known in Bitlis Province increased to 954. Among them, 631 species belong to the order *Lepidoptera*. During field studies, observations on the behaviour of the species, predator-prey relationships, some food-plant records of herbivorous insects, photographed by the authors are used in this publication for the first time. Among them, the information about the early stage of *Xanthia icteritia* (*Noctuidae*) is given here for the first time in Turkey (Figs. 45-54). Other important eco-faunistical or biological information are mentioned as explanations of the related

¹ <http://www.cesa-tr.org/numbertr.htm>

figures.

Amphibiotica

This order group comprises three orders in Turkey. *Ephemeroptera* and *Plecoptera* are comparatively less studied than *Odonata*. *Plecoptera* is represented by 81 species in Turkey. The number of the *Ephemeroptera* known in Turkey has not been investigated yet within the frame of the current Project of Entomofauna of Turkey. The order *Odonata* is represented by 114 species in Turkey. As the most important rivers and mountain streams, occurring in Turkey are currently disturbed, polluted, or destroyed on a large scale, such limno-faunistic studies became more important and very urgent today. The first two amphibiotic orders are still almost unexplored in many parts of East- and South-East Turkey.

***Ephemeroptera* (Fig. 1)**

They are aquatic insects whose immature stage usually lasts one year in freshwater. The lifespan of an adult can vary from just 30 minutes to one day depending on the species. The wings are membranous, with extensive venation, and are held upright like those of a butterfly. The hindwings are much smaller than the forewings, and may be vestigial, in some species entirely absent. Both immature and adult mayflies are an important part of the food chain. Males generally fly in swarms that undulate in the air 5–15 meters above the ground.

Recorded specimens from Mutki belong to 3 families, *Ecdyonuridae*, *Heptagleniidae*, *Palingeniidae*.

Plecoptera

Recorded specimen from Mutki belongs to one family.

***Odonata* (Figs. 2-6)**

Recorded specimens from Mutki belong to 4 families, *Aeshnidae*, *Coenagrionidae*, *Gomphidae* (Fig. 6), *Libellulidae* (Figs.2-5).

***Orthoptera* (Figs. 7-18)**

Recorded specimens from Mutki belong to 5 families, *Acrididae* (Figs. 11-13), *Pamphagidae* (Figs. 14-15), *Tettigidae* (Figs. 7-9), *Tettigoniidae* (Figs. 16-18), *Tridactylidae* (Fig.10). The order Orthoptera is represented by 593 species in Turkey.

***Dermoptera* (Fig. 19)**

Recorded specimens from Mutki belong to one family, *Forficulidae*. The order *Dermoptera* is represented by 22 species in Turkey.

***Hemiptera* (Figs. 20-30, 139)**

Recorded specimens from Mutki belong to 11 families, *Alydidae*, *Coreidae* (Figs. 22-23), *Gerridae*, *Hydrometridae* (Fig. 20), *Lygaeidae* (Figs.25-26), *Miridae* (Fig.139), *Pentatomidae* (Figs.29-

30), Reduviidae (Fig.24), Rhopalidae (Fig.27), Saldidae (Fig.21), Scutellariidae (Fig.28). The order *Hemiptera* is represented by 582 species of Turkey in the info-system of the Cesa.

Homoptera (Figs. 31-32)

Recorded specimens from Mutki belong to 4 families, *Aphidae*, *Cercopidae* (Fig.31), *Cicadellidae* (Fig.32), *Membracidae*. The order *Homoptera* is represented by 1068 species in Turkey.

Planipennia (Fig. 33)

Recorded specimens from Mutki belong to 4 families, *Ascalaphidae* (Fig.33), *Chrysopidae*, *Myrmeleonidae*, *Raphidiidae*. The order *Planipennia* is represented by 132 species of Turkey in the info-system of the Cesa.

Trichoptera (Figs. 34-37)

Caddisflies (Trichoptera) are small moth-like insects having two pairs of hairy membranous wings. They are closely related to Lepidoptera (moths and butterflies) which have scales on their wings. Caddisflies have aquatic larvae and are found in a wide variety of habitats such as streams, rivers, lakes, ponds, spring seeps, and temporary waters.

Recorded specimens from Mutki belong to 3 families, *Philopotamidae (Annulipalpia)*, two more unidentified families.

Lepidoptera (Figs. 38-59)

Recorded specimens from Mutki belong to 23 families, *Adelidae*, *Arctiidae*, *Argynnidae* (Fig.38), *Ethmiidae*, *Gelechiidae*, *Geometridae*, *Gracillariidae*, *Hesperiidae* (Fig.59), *Lasiocampidae* (Figs. 40-43), *Lycaenidae*, *Lymantriidae* (Fig.39), *Noctuidae* (Figs. 44-57), *Oecophoridae*, *Papilionidae*, *Pieridae*, *Plutellidae*, *Psychidae*, *Pterophoridae*, *Pyralidae*, *Satyridae*, *Sphingidae* (Fig.58), *Tortricidae*, *Zygaenidae*. The order *Lepidoptera* is represented by 5203 species in Turkey.

Diptera (Figs. 60-106)

Recorded specimens from Mutki belong to 20 families, *Anthomyiidae* (Fig. 92), *Asilidae* (Fig. 93), *Bibionidae* (Fig. 63), *Bombyliidae* (Figs. 94-98), *Calliphoridae (Pollenia)* (Fig. 91), *Cecidomyiidae*, *Conopidae*, *Empidae* (Figs.70-72)², *Limoniidae*, *Micropezidae* (Fig.64)³, *Muscidae* (Figs. 68, 89-90), *Opomyzidae* (Fig. 69), *Rhagionidae (Rhagio)* (Fig. 73), *Sciaridae* (Fig. 67), *Sciomyzidae*⁴ (*Coremacera*) (Figs. 65-66), *Syrphidae* (Figs. 99-106), *Tabanidae* (*Haematopota italica*) (Fig. 74), *Tachinidae* (Figs. 80-88), *Tephritidae* (Figs. 75-79), *Tipulidae* (Figs. 60-62). The order *Diptera* is represented by 2179 species of Turkey in the info-system of the Cesa.

² A family of medium to very small sized of grey, yellowish or dark colouration, very rarely metallic. Predator usually upon small flies.

³ Abundant in the neotropics. Adult flies are often associated with decayed wood and a few larvae have been bred from this habitat (Berg, 1947, *Occ. Pap. Mus. Zool. niv. Michigan* 503: 1-14).

⁴ *Sciomyzidae* (Marsh Fly), most of them have spotted or patterned wings and the antennae that extend forward. They tend to live in damp environments and the larvae feed on snails, snail eggs, some on slugs.

Hymenoptera (Figs. 107-121)

Recorded specimens from Mutki belong to the 13 families, *Argidae*, *Apidae* (Figs. 108-109), *Braconidae*, *Cynipidae* (Figs. 113-121), *Eulophidae*, *Eumenidae* (Fig. 111), *Formicidae*, *Ichneumonidae*, *Pompilidae* (Fig. 112), *Pteromalidae*, *Scoliidae*, *Tenthredinidae*, *Vespidae* (Fig. 110). The order *Hymenoptera* is represented by 2670 species of Turkey in the info-system of the Cesa.

Coleoptera (Figs. 122-150)

Recorded specimens from Mutki belong to 19 families, *Attelabidae* (Figs. 142-143), *Buprestidae* (Fig. 149), *Cantharidae* (Fig. 122), *Cerambycidae* (Figs. 132-141), *Chrysomelidae* (Figs. 129-131), *Cicindelidae*, *Cleridae* (Fig. 126), *Coccinellidae*, *Curculionidae* (Figs. 144-145), *Dasytidae* (Fig. 123), *Dermestidae*, *Elateridae* (Fig. 128), *Glaphyridae* (Fig. 148), *Meloidae* (Fig. 127), *Melyridae* (Figs. 124-125), *Mordellidae*, *Scarabaeidae* (Figs. 146-147), *Staphylinidae* (Fig. 150), *Tenebrionidae*. The order *Coleoptera* is represented by 3821 of Turkey in the info-system of the Cesa.

List of the pterygot species recorded in Mutki (except Lepidoptera)

According to the families alphabetically arranged list represents a part of the collected or observed pterygot insects from Mutki in spring. Species of the *Lepidoptera* will be published in a separate article. For that reason, the list of the following 76 species is apparently short; notwithstanding, all of them are new records for the fauna of the district.

Odonata (3 identified species)

1. **Gomphus schneideri Selys, 1850** (Gomphidae) Synonym(s): *schneideri Selys, 1850* (Fig. 6)
2. **Libellula depressa Linnaeus, 1758** (Libellulidae) Synonym(s): *depressa Linnaeus, 1758* (Figs. 4-5)
3. **Orthetrum brunneum (Fonscolombe, 1837)** (Libellulidae) Synonym(s): *brunneum Fonscolombe, 1837* (Fig. 2)

Orthoptera (3 identified species)

4. **Chorthippus (Glyptobothrus) brunneus (Thunberg, 1815)** (Acrididae) Synonym(s): *brunneus Thunberg, 1815* (Figs. 11-13)
5. **Depressotetrix depressa (Brisout, 1848)** (Tettigidae) Synonym(s): *depressa Brisout, 1848; acuminata Brisout, 1850; charpentieri Fieber, 1853; elevata Fieber, 1853; rufis Walker, 1971; turcicus Demirsoy, 1977* (Fig. 7)

6. **Tetrix subulata (Linnaeus,1758)** (Tetrigidae) Synonym(s): *subulata* Linnaeus,1758 (Figs. 8-9)**Hemiptera (9 identified species)**

7. **Syromastus rhombeus (Linnaeus,1767)** (Coreidae) Synonym(s): *rhombeus* Linnaeus,1767 (Fig. 23)
8. **Hydrometra stagnorum (Linnaeus,1758)** (Hydrometridae) Synonym(s): *stagnorum* Linnaeus,1758 (Fig. 20)
9. **Lygaeus equestris (Linnaeus,1758)** (Lygaeidae) Synonym(s): *equestris* Linnaeus,1758 (Fig. 25)
10. **Phyllomorphus laciniatus (Villers,1789)** (Lygaeidae) Synonym(s): *laciniatus* Villers,1789 (Fig. 26)
11. **Prostemma guttula (Fabricius,1787)** (Nabidae) Synonym(s): *guttula* Fabricius,1787
12. **Dolycoris baccarum (Linnaeus,1758)** (Pentatomidae) Synonym(s): *baccarum* Linnaeus,1758 (Fig. 29)
13. **Palomena prasina (Linnaeus,1761)** (Pentatomidae) Synonym(s): *prasina* Linnaeus,1761 (Fig. 30)
14. **Corizus hyoscyami (Linnaeus,1758)** (Rhopalidae) Synonym(s): *hyoscyami* Linnaeus,1758 (Fig. 27)
15. **Eurygaster testudinaria (Geoffroy,1785)** (Scutellaridae) Synonym(s): *testudinaria* Geoffroy,1785 (Fig. 28)

Homoptera (1 identified species)

16. **Cercopis intermedia Kirschbaum,1868** (Cercopidae) Synonym(s): *intermedia* Kirschbaum,1868; *obliterata* Kirschbaum,1868; *nigra* Royer,1906; *simulans* Peneau,1912; *turkestanica* Lindberg,1923 (Fig. 31)

Planipennia (2 identified species)

17. **Libelloides macaronius (Scopoli,1763)** (Ascalaphidae) Synonym(s): *macaronius* Scopoli,1763
18. **Libelloides rhomboideus (Schneider,1845)** (Ascalaphidae) Synonym(s): *rhomboideus* Schneider,1845 (Fig. 33)

Diptera (23 identified species)

19. **Bibio marci (Linnaeus,1758)** (Bibionidae) Synonym(s): *marci* Linnaeus,1758; *brevicornis* Linnaeus,1758; *crassipes* Harris,1776; *funerosus* Harris,1776; *pusillus* Macquart,1846 (Fig. 63)
20. **Bombyella atra (Scopoli,1763)** (Bombyliidae) Synonym(s): *ater* Scopoli,1763; *#quartus* Schaeffer,1768; *uralensis* Gmelin,1790; *barbulus* Pallas,1818; *lugubris* Loew,1855 (Fig. 94)
21. **Chalcochiton pallasi (Loew,1856)** (Bombyliidae) Synonym(s): *pallasi* Loew,1856; *schineri* Nowicki,1868 (Fig. 95)
22. **Phaonia pallida (Fabricius,1787)** (Muscidae) Synonym(s): *pallida* Fabricius,1787 (Fig. 90)
23. **Schoenomyza litorella (Fallén,1823)** (Muscidae) Synonym(s): *litorella* Fallén,1823 (Fig. 68)
24. **Chrysotoxum intermedium Meigen,1822** (Syrphidae) Synonym(s): *intermedium* Meigen,1822
25. **Chrysotoxum parvum Rondani,1845** (Syrphidae) Synonym(s): *parvum* Rondani,1845 (Fig. 105)
26. **Episyrphus balteatus (De Geer,1776)** (Syrphidae) Synonym(s): *cannabina* Scopoli,1763; *balteatus* De Geer,1776; *scitula* Harris,1776; *alternata* Schrank,1781; *nectarea* Fabricius,1787; *nectarina* Wiedemann,1830; *alternana* Macquart,1842 (Fig. 104)
27. **Eristalis (Eoseritalis) arbustorum (Linnaeus,1758)** (Syrphidae) Synonym(s): *arbustorum* Linnaeus,1758; *lineole* Harris,1776 (Fig. 103)
28. **Merodon velox Loew,1869** (Syrphidae) Synonym(s): *velox* Loew,1869; *anathema* Paramonov,1925; *armeniaca* Paramonov,1925 (Figs. 99-100)
29. **Sphaerophoria scripta (Linnaeus,1758)** (Syrphidae) Synonym(s): *scripta* Linnaeus,1758; *gemma* Scopoli,1763; *fasciata* Müller,1764; *invisita* Harris,1776; *menthostri* De Geer,1776 (Fig. 106)
30. **Syritta pipiens (Linnaeus,1758)** (Syrphidae) Synonym(s): *pipiens* Linnaeus,1758; *proxima* Say,1824
31. **Syrphus ribesii (Linnaeus,1758)** (Syrphidae) Synonym(s): *ribesii* Linnaeus,1758; *blanda* Harris,1780 (Fig. 102)
32. **Xylota ignava (Panzer,1798)** (Syrphidae) Synonym(s): *ignava* Panzer,1798 (Fig. 101)

33. *Haematopota italica* Meigen,1804 (Tabanidae) Synonym(s): *italica* Meigen,1804; *gallica* Szilady,1923 (Fig. 74)

34. *Ectophasia crassipennis* (Fabricius,1794) (Tachinidae) Synonym(s): *crassipennis* Fabricius,1794 (Fig. 80)

35. *Tachina (Servillia) lurida* (Fabricius,1781) (Tachinidae) Synonym(s): *lurida* Fabricius,1781 (Fig. 83)

36. *Podonta nigrita* (Fabricius,1794) (Tenebrionidae) Synonym(s): *nigrita* Fabricius,1794

37. *Heringina guttata* (Fallén,1814) (Tephritidae) Synonym(s): *guttata* Fallén,1814; *gemma* Meigen,1826 (Fig. 78)

38. *Oxyna nebulosa* (Wiedemann,1817) (Tephritidae) Synonym(s): *nebulosa* Wiedemann,1817; *femoralis* Robineau-Desvoidy,1830; *nigrofemorata* Meigen,1838; *proboscidea* Loew,1844; *parietina* Zetterstedt,1855; *cinarae* Rondani,1870 (Fig. 79)

39. *Tephritis merzi* Freidberg & Kütük,2002 (Tephritidae) Synonym(s): *merzi* Freidberg & Kütük,2002 (Fig. 77)

40. *Tephritis postica* (Loew,1844) (Tephritidae) Synonym(s): *postica* Loew,1844 (Fig. 75)

41. *Tephritisomyia lauta* (Loew,1869) (Tephritidae) Synonym(s): *lauta* Loew,1869 (Fig. 76)

Hymenoptera (17 identified species)

42. *Andricus askewi* Melika & Stone,2001 (Cynipidae) Synonym(s): *askewi* Melika & Stone,2001 (Figs. 117-118)

43. *Andricus caputmedusae* (Hartig,1843) (Cynipidae) Synonym(s): *caputmedusae* Hartig,1843; *gallaecristatae* Henschel,1876

44. *Andricus insanus* (Westwood,1837) (Cynipidae) Synonym(s): *insanus* Westwood,1837 (Figs. 115-116)

45. *Andricus kollari* (Hartig,1843) (Cynipidae) Synonym(s): *kollari* Hartig,1843; *circulans* Mayr,1870; *indigena* Giraud,1909

46. *Andricus lignicolus* (Hartig,1840) (Cynipidae) Synonym(s): *lignicolus* Hartig,1840; *vanheurni* Docters van Leeuwen & Deukhuijzen-Maasland,1958

47. *Andricus lucidus* (Hartig,1843) (Cynipidae) Synonym(s): *lucidus* Hartig,1843; *aestivalis* Giraud,1859; *lucidoserinaceus* Kieffer,1901

48. *Andricus multiplicatus* Giraud,1859 (Cynipidae) Synonym(s): *multiplicatus* Giraud,1859

49. *Andricus polycerus* (Giraud,1859) (Cynipidae) Synonym(s): *polycerus* Giraud,1859; *subterranea* Giraud,1859; *transversa* Kieffer,1897; *trinacriae* Stefani,1906 (Figs. 113-114)

50. *Andricus quercustozae* (Bosc,1792) (Cynipidae) Synonym(s): *quercustozae* Bosc,1792; *quercustojae* Fabricius,1793; *argentea* Hartig,1843; *rosenhaueri* Hartig,1856; *kiefferi* Cabrera,1897; *tozae* Kieffer,1898

51. *Andricus sternlichti* Bellido, Pujade-Villar & Melika,2003 (Cynipidae) Synonym(s): *sternlichti* Bellido, Pujade-Villar & Melika,2003

52. *Andricus tomentosus* (Trotter,1901) (Cynipidae) Synonym(s): *tomentosus* Trotter,1901

53. *Andricus truncicola* (Giraud,1859) (Cynipidae) Synonym(s): *truncicola* Giraud,1859

54. *Aphelonyx cerricola* (Giraud,1859) (Cynipidae) Synonym(s): *cerricola* Giraud,1859 (Fig. 119)

55. *Aphelonyx persica* Melika, Stone, Sadeghi & Pujade-Villar,2004 (Cynipidae) Synonym(s): *persica* Melika, Stone, Sadeghi & Pujade-Villar,2004 (Fig. 120)

56. *Cynips quercus* (Fourcroy,1785) (Cynipidae) Synonym(s): *quercus* Fourcroy,1785; *pubescens* Mayr,1881; *ilicis* Kieffer,1896; *geminus* Belizin & Maisuradze,1962; *rusanovaee* Belizin & Maisuradze,1962

57. *Cynips quercusfolii* (Linnaeus,1758) (Cynipidae) Synonym(s): *quercusfolii* Linnaeus,1758; *scutellaris* Olivier,1791; *gallaecerasiformis* Anthoine,1794; *gallaecunidoniformis* Anthoine,1794; *folii* Hartig,1840; *flosculi* Giraud,1868; *giraudi* Tschek,1869; *taschenbergi* Schlechtendal,1870

58. *Diplolepis fructuum* (Rübsaamen,1895) (Cynipidae) Synonym(s): *fructuum* Rübsaamen,1895

Coleoptera (18 identified species)

59. *Rhynchites hungaricus* (Herbst,1784) (Attelabidae) Synonym(s): *hungaricus* Herbst,1784; *marginatus* Schrank,1798; *ursus* Gebler,1830; *anatolicus* Schilsky,1903; *marginicollis* Schilsky,1903; *maculicollis* Reitter,1916; *suturifer* Reitter,1916 (Fig. 143)

60. *Trachys minuta* (Linnaeus,1758) (Buprestidae) Synonym(s): *minuta* Linnaeus,1758; *mandjurica* Obenberger,1917; *reflexiformis* Obenberger,1917 (Fig. 149)

61. Cicindela desertorum Dejean,1825 (Carabidae) Synonym(s): *desertorum Dejean,1825*

62. Agapanthia frivaldskyi Ganglbauer,1884 (Cerambycidae) Synonym(s): *frivaldskyi Ganglbauer,1884* (Fig. 135)

63. Agapanthia kirbyi (Gyllenhal,1817) (Cerambycidae) Synonym(s): *kirbyi Gyllenhal,1817* (Fig. 138)

64. Agapanthia walteri Reitter,1898 (Cerambycidae) Synonym(s): *walteri Reitter,1898* (Fig. 137)

65. Opsilia coeruleascens (Scopoli,1763) (Cerambycidae) Synonym(s): *coeruleascens Scopoli,1763* (Fig. 140)

66. Oxylia argentata (Ménétriés,1832) (Cerambycidae) Synonym(s): *argentata Ménétriés,1832* (Fig. 141)

67. Pedostrangalia emmipoda (Mulsant,1863) (Cerambycidae) Synonym(s): *emmipoda Mulsant,1863* (Fig. 133)

68. Phytoecia virgula (Charpentier,1825) (Cerambycidae) Synonym(s): *virgula Charpentier,1825* (Fig. 132)

69. Cryptocephalus signatifrons Suffrian,1847 (Chrysomelidae) Synonym(s): *signatifrons Suffrian,1847*

70. Gonioctena linnaeana (Schrank,1781) (Chrysomelidae) Synonym(s): *linnaeana Schrank,1781; decastigma Dftschmidt,1825; triandrae Suffrian,1851* (Fig. 131)

71. Coccinella (s.str.) septempunctata Linnaeus,1758 (Coccinellidae) Synonym(s): *septempunctata Linnaeus,1758; brucki Mulsant,1866*

72. Exochomus quadripustulatus (Linnaeus,1758) (Coccinellidae) Synonym(s): *quadripustulatus Linnaeus,1758*

73. Lixus punctiventris Boheman,1836 (Curculionidae) Synonym(s): *punctiventris Boheman,1836*

74. Malachius scutellaris Erichson,1840 (Melyridae) Synonym(s): *scutellaris Erichson,1840* (Fig. 124)

75. Cetonia (s.str.) aurata (Linnaeus,1761) (Scarabaeidae) Synonym(s): *aurata Linnaeus,1761; smaragdus De Geer,1774; aenea Fuessly,1778; chlorochrysa Schrank,1776; viridicoruscus Voet,1779; maculata Scriba,1790; variabilis Preyss.,1790; piligera Mulsant & Rey,1842; praeclera Mulsant & Rey,1842; clermonti Bourgin,1948* (Fig. 146)

76. Oxythyrea cinctella (Schaum,1841) (Scarabaeidae) Synonym(s): *albella Illiger,1802 (praeocc.); cinctella Schaum,1841; natalia Olsufiev,1917* (Fig. 147)

Acknowledgements:

We thank sincerely to the following colleagues for their kind helps in determining of some species and valuable comments: Dr. George Melika, Dr. Valery Korneyev, Dr. Fevzi Özgökçe, Paul Beuk, André van Eck, Stephane Lebrun, R. Thomason, and Chris Raper.

Illustrations of some members of the pterygot orders from Mutki



Fig. 1 - A resting Mayfly (Ephemeroptera). Turkey, Bitlis Prov., Mutki-Bitlis border 1700m 24 5 2010 photo M. Kemal (Cesa)



Fig. 2 - *Orthetrum brunneum* (Libellulidae) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal, det. A.Koçak (Cesa)



Fig. 3 - A female *?Sympetrum* sp. (Libellulidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal (Cesa)



Fig. 4 - *Libellula depressa* male at rest (Libellulidae) from Turkey, Bitlis Prov., Mutki-Bitlis border 1700m 23 5 2010 photo M Yalçın, det. A.Koçak (Cesa)



Fig. 5 - *Libellula depressa* female at rest (*Libellulidae*) from Turkey, Bitlis Prov., Mutki, Şelale 1300m 21 5 2010 photo & det. M Kemal (Cesa)



Fig. 6 - *Gomphus schneideri* (*Gomphidae*) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal (Cesa)



Fig. 7 - *Depressotetrix depressa* (Tetrigidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal, det. A.Koçak (Cesa)



Fig. 8 - *Tetrix ? subulata* (Tetrigidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal (Cesa)



Fig. 9 - *Tetrix ? subulata* (Tetrigidae) from Turkey, Bitlis Prov., Mutki, Kavakbaşı yolu Tepeyayla 1700m 21 5 2010
photo M Kemal (Cesa)



Fig. 10 - *Tridactylus* sp. (Tridactylidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal (Cesa)



Fig. 11 - *Chorthippus brunneus* (Acrididae, Gomphocerinae) from Turkey, Bitlis Prov., Mutki, Kavakbaşı yolu Tepeyayla 1700m 21.5.2010 photo M Kemal (Cesa)



Fig. 12 - *Chorthippus brunneus* (Acrididae, Gomphocerinae) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22.5.2010 photo M Kemal (Cesa)



Fig. 13 - *Chorthippus brunneus* in copula (Acrididae, Gomphocerinae) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal (Cesa)



Fig. 14 - A pamphagid male from Turkey, Bitlis Prov., Mutki, Kavakbaşı yolu Tepeyayla 1700m 21 5 2010 photo M Kemal (Cesa)



Fig. 15 - A pamphagid female from Turkey, Bitlis Prov., Mutki, Kavakbaşı yolu Tepeyayla 1700m 21 5 2010 photo M Kemal (Cesa)



Fig. 16 - A male nymph of *Isophya* or *Poecilimon* group (Tettigoniidae, Phaneropterinae) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal, det. A.Koçak (Cesa)



Fig. 17 - *Uvarovistia* sp. male nymph (Tettigoniidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal det. A.Koçak (Cesa)



Fig. 18 - *Uvarovistia* sp. female nymph (Tettigoniidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal, det. A.Koçak (Cesa)



Fig. 19 - *Forficula* sp. (male) (Forficulidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal (Cesa)



Fig. 20 - *Hydrometra stagnorum* (Hydrometridae) A semi-aquatic predator which is found over the surface of stagnant water. Turkey, Bitlis Prov., Mutki- Bitlis border 1700m 24 5 2010 photo M. Kemal (Cesa)



Fig. 21 - A *Saldula* species (Saldidae). Turkey, Bitlis Prov., Mutki- Bitlis border 1700m 24 5 2010 photo M. Kemal (Cesa)

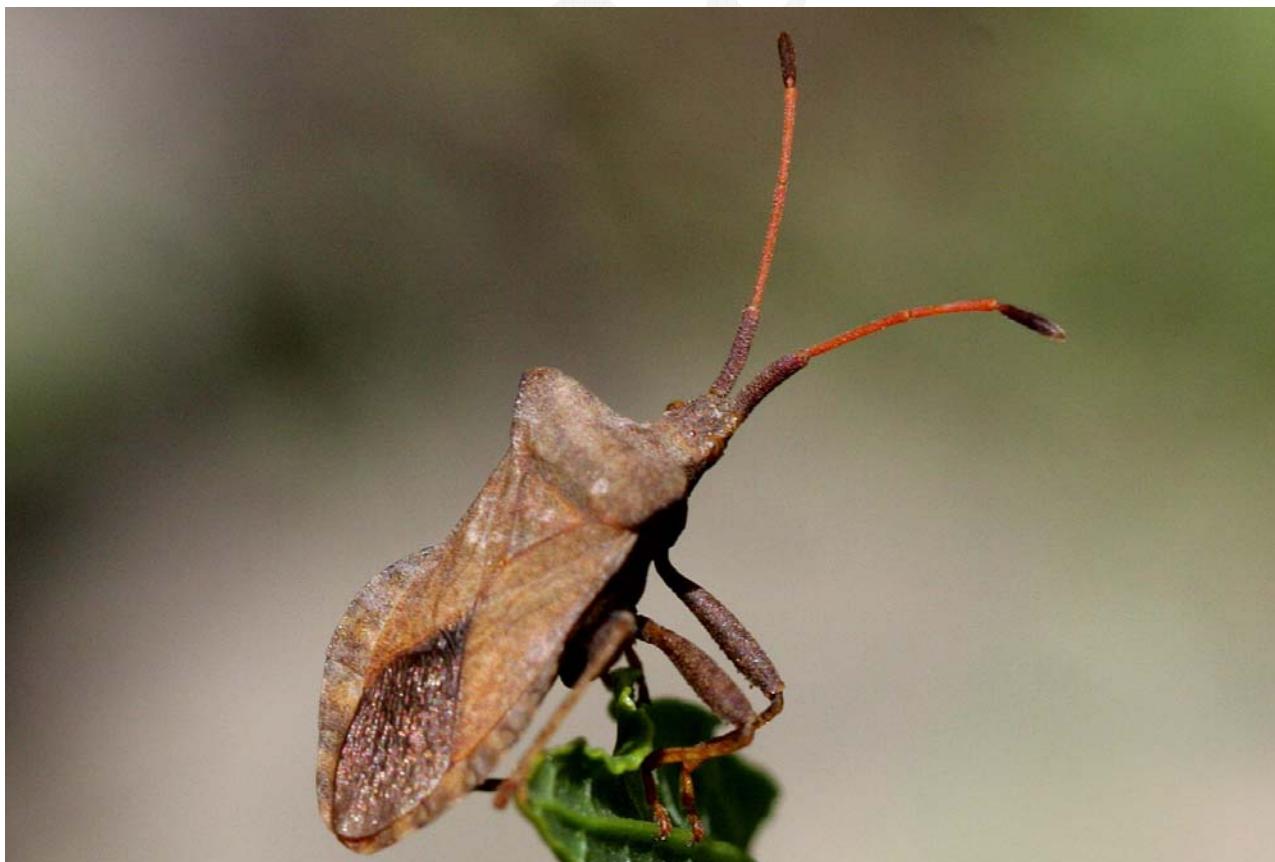


Fig. 22 - A *Coreus* species (Coreidae) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal (Cesa)



Fig. 23 - *Syromastus rhombeus* (Coreidae) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo & det. M Kemal (Cesa)



Fig. 24 - A reduviid species (Reduviidae) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal (Cesa)



Fig. 25 - *Lygaeus equestris* (Lygaeidae) from Turkey, Bitlis Prov., Mutki, Meydan 1000m 23 4 2010 photo M Kemal (Cesa)



Fig. 26 - *Phyllomorphus laciniatus* (Lygaeidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Bakan (Cesa)



Fig. 27 - *Corizus hyoscyami* (Rhopalidae) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal (Cesa)



Fig. 28 - *Eurygaster testudinaria* (Scutellariidae) from Turkey, Bitlis Prov., Mutki, Meydan 1000m 23 4 2010 photo M Kemal (Cesa)



Fig. 29 - *Dolycoris baccarum* (Pentatomidae) from Turkey, Bitlis Prov., Mutki, Meydan 1000m 23 4 2010 photo M Kemal (Cesa)



Fig. 30 - *Palomena prasina* (Pentatomidae) on *Quercus* from Turkey, Bitlis Prov., Mutki, Kavakbaşı yolu Tepeyayla 1700m 21 5 2010 photo M Kemal (Cesa)



Fig. 31 - *Cercopis intermedia* (Cercopidae). Turkey, Bitlis Prov., Mutki- Bitlis border 1700m 24 5 2010 photo M. Kemal (Cesa)



Fig. 32 - *A. typhlocybid* species (Cicadellidae). Turkey, Bitlis Prov., Mutki- Bitlis border 1700m 24 5 2010 photo M. Kemal (Cesa)

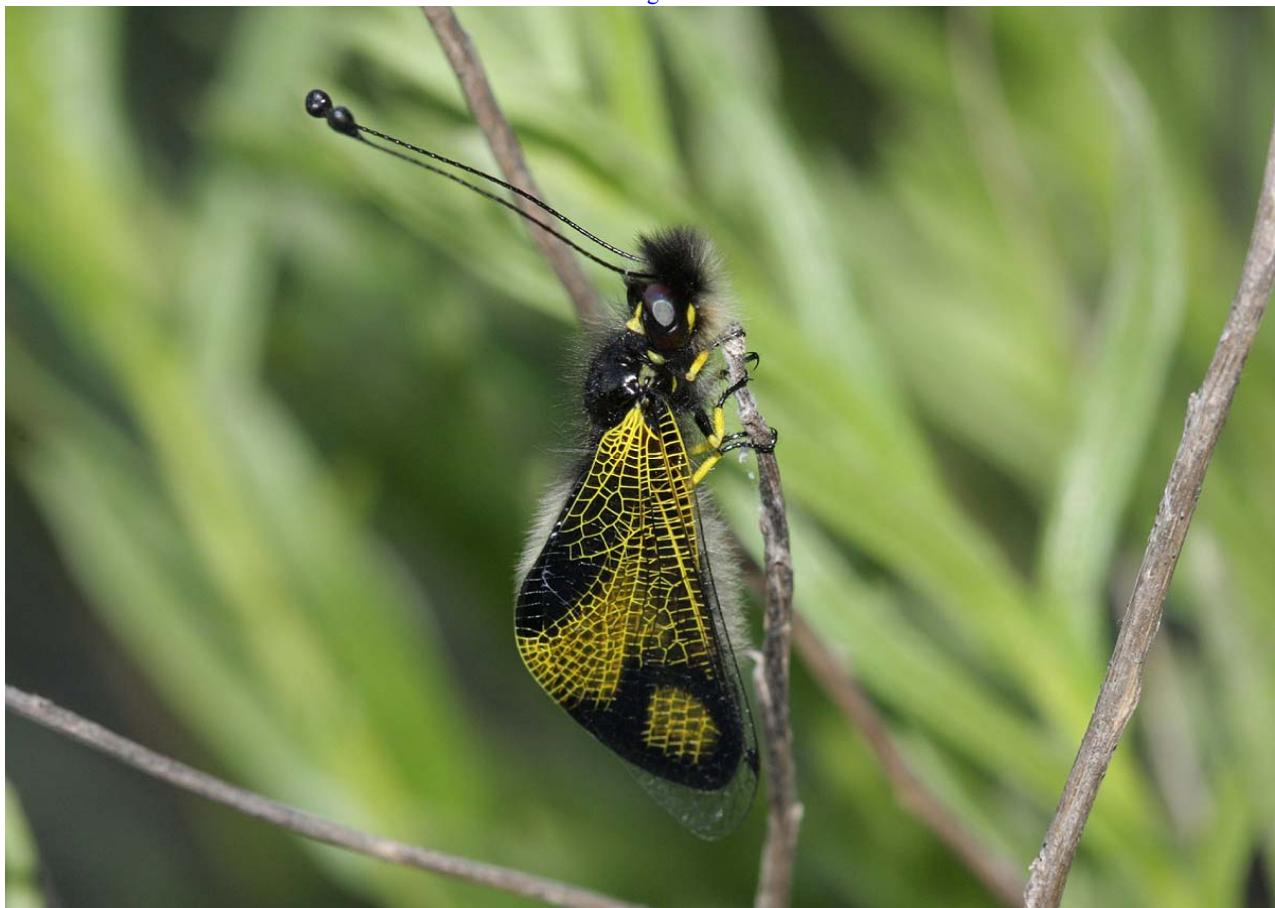


Fig. 33 - *Libelloides rhomboideus* (Ascalaphidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal (Cesa)



Fig. 34 - A trichopter adult from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal (Cesa)



Fig. 35 - *Philopotamus* sp (Philopotamidae) Turkey Bitlis Prov., Mutki, Beyazsu 1400m 19 3 2010 photo M Kemal (Cesa)



Fig. 36 - A resting Caddisfly (Trichoptera). Turkey, Bitlis Prov., Mutki- Bitlis border 1700m 24 5 2010 photo M. Kemal (Cesa)



Fig. 37 - A larva of Caddisfly (Trichoptera) from Turkey Bitlis Prov., Mutki, Kavakbağı road 1400m 24 4 2010 photo M Kemal (Cesa)



Fig. 38 - Caterpillar of *Melitaea cinxia* (Argynnidae) feeding on *Taraxacum* sp. (Asteraceae). Turkey, Bitlis Prov., Mutki, Dereyolu 1600m 25 4 2010 photo M Kemal (Cesa)



Fig. 39 - A caterpillar of *Euproctis chrysorrhoea* (Lymantriidae) on *Quercus* sp. (Fagaceae) from Turkey, Bitlis Prov., Mutki, Kavakbaşı yolu Tepeyayla 1700m 21 5 2010 photo M Kemal (Cesa)



Fig. 40 - Young caterpillars in gregarious stage of *Malacosoma neustria* (Lasiocampidae) on *Quercus* sp. (Fagaceae) from Turkey, Bitlis Prov., Mutki, Kavakbaşı yolu Tepeyayla 1700m 21 5 2010 photo M Kemal (Cesa)



Fig. 41 - Young caterpillars in gregarious stage of *Malacosoma neustria* (Lasiocampidae) on *Quercus* sp. (Fagaceae) from Turkey, Bitlis Prov., Mutki, Kavakbaşı yolu Tepeyayla 1700m 21 5 2010 photo M Kemal (Cesa)



Fig. 42 - Young caterpillar of *Chondrostega* sp. (Lasiocampidae) feeding on various low malacophyllous plants. Turkey, Bitlis Prov., Mutki, Dereyolu 1600m 25 4 2010 photo M Kemal (Cesa)



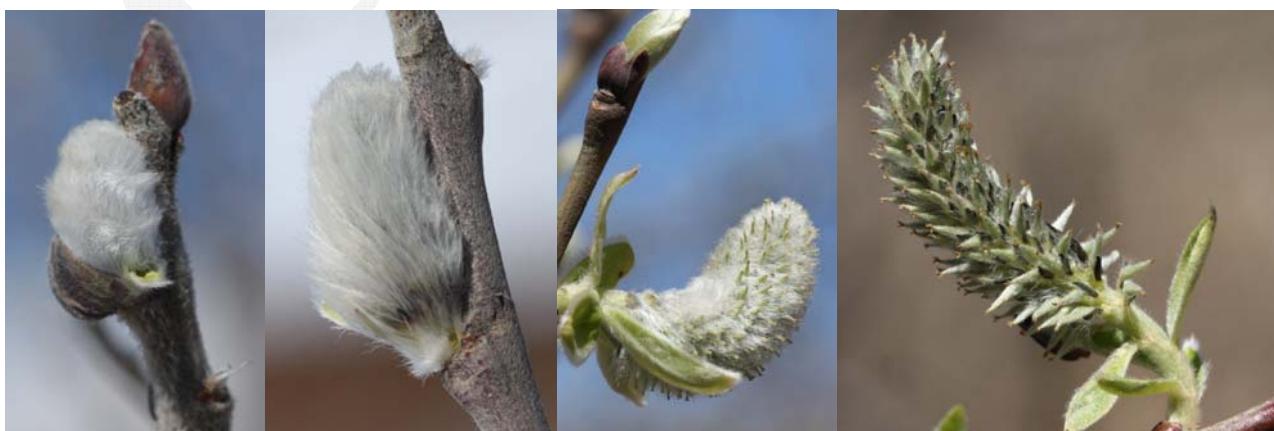
Fig. 43 - Young caterpillar of *Lasiocampa eversmanni* (*Lasiocampidae*) feeding on various low malacophyllous plants. Turkey, Bitlis Prov., Mutki, Dereyolu 1600m 25 4 2010 photo M Kemal (Cesa)



Fig. 44 - Caterpillar of *Shargacucullia verbasci* (*Noctuidae, Cuculliinae*) on *Verbascum* sp. (*Scrophulariaceae*) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M. Yalçın (Cesa)



Fig. 45 - Habitat of *Xanthia icteritia* (Noctuidae, Cuculliinae), Bitlis Prov., Mutki, Dereyolu vic. 1600m, 19 3 2010. *Salix caprea* under snow, when three young caterpillars were collected by the author, photo M. Kemal (Cesa)



Figs. 46-49 - Images of various stages of the *Salix caprea* [det.F.Özgökçe] flowers at Mutki Dereyolu 1600m 19 3 2010 where the caterpillars of *Xanthia icteritia* (Noctuidae, Cuculliinae) are feeding, photo M. Kemal (Cesa)



Fig. 50 - Young caterpillar of *Xanthia icteritia* (Noctuidae, Cuculliinae) feeding inside of the flowers of *Salix caprea* in the laboratory, 22 3 2010 photo M. Kemal (Cesa) **New to Bitlis Province!**



Fig. 51 - Developed caterpillar of *Xanthia icteritia* (Noctuidae, Cuculliinae) feeding inside of the flowers of *Salix caprea* in the laboratory, 26 3 2010 photo M. Kemal (Cesa)



Fig. 52 - Developed caterpillar of *Xanthia icteritia* (Noctuidae, Cuculliinae) sitting inside of the flowers of *Salix caprea* in the laboratory, 27 3 2010 photo M. Kemal (Cesa)



Fig. 53 - Developed caterpillar of *Xanthia icteritia* (Noctuidae, Cuculliinae) feeding on the flowers of *Salix caprea* in the laboratory, 29 3 2010 photo M. Kemal (Cesa)



Fig. 54 - Full grown caterpillar of *Xanthia icteritia* (Noctuidae, Cuculliinae) feeding on the flowers of *Salix caprea* in the laboratory, 14 2010 photo M. Kemal (Cesa)



Fig. 55 - Caterpillar of an *Agrochola* ? species (Noctuidae) on *Sanguisorba* sp. (Rosaceae) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M. Yalçın (Cesa)



Fig. 56 - Caterpillar of *Xylena exsoleta* in 4th stage (Noctuidae) on *Rumex* (Polygonaceae) from Turkey, Bitlis Prov., Mutki- Bitlis border 1700m 23 5 2010 photo M. Kemal (Cesa) ⁵ [In captivity, it feeds on *Plantago lanceolata* leaves on 2 June 2010 M.Kemal] **New faunistical record to Bitlis Province!**



Fig. 57 - Caterpillar of *Xylena exsoleta* (Noctuidae) on *Rumex* (Polygonaceae) obtained from Bitlis Prov., Mutki- Bitlis border. 1700m. The photograph of the 5th stage, taken in laboratory on 28 5 2010 by M. Kemal (Cesa)

⁵ Previous food-plant records were *Rheum ribes* (Polygalaceae) [İşgın] and *Euphorbia* (Euphorbiaceae) from Van Province in East Turkey. [see: Kemal,M., Ozkol,H. & L.Kayci, 2008, *Xylena Ochsenheimer* in East Turkey with new provincial records and larval food-plants (Noctuidae, Lepidoptera). *Cent. ent. Stud., Misc. Pap.* 139-140: 10-14, figs.

<http://www.archive.org/details/CentreForEntomologicalStudiesAnkaraMiscellaneousPapers139-140>]



Fig. 58 - Caterpillar of a full grown *Macroglossum stellatarum* (Sphingidae) on *Galium* (Rubiaceae) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo & det. M. Kemal (Cesa)



Fig. 59 - A Pyrginae caterpillar feeding on *Phlomis* (Lamiaceae) probably *Spialia* or *Muschampia* species. Turkey, Bitlis Prov., Mutki- Bitlis border 1700m 24 5 2010 photo M. Kemal (Cesa)



Fig. 60 - *Tipula* sp. (Tipulidae) from Turkey, Bitlis Prov., Mutki, Kavakbaşı yolu Tepeyayla 1700m 24 4 2010 photo M Kemal (Cesa)



Fig. 61 - *Nephrotoma* sp. (Tipulidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo & det. M Kemal (Cesa)



Fig. 62 - A *Nephrotoma* species in copula (Tipulidae). Turkey, Bitlis Prov., Mutki- Bitlis border 1700m 24 5 2010 photo M. Kemal (Cesa)

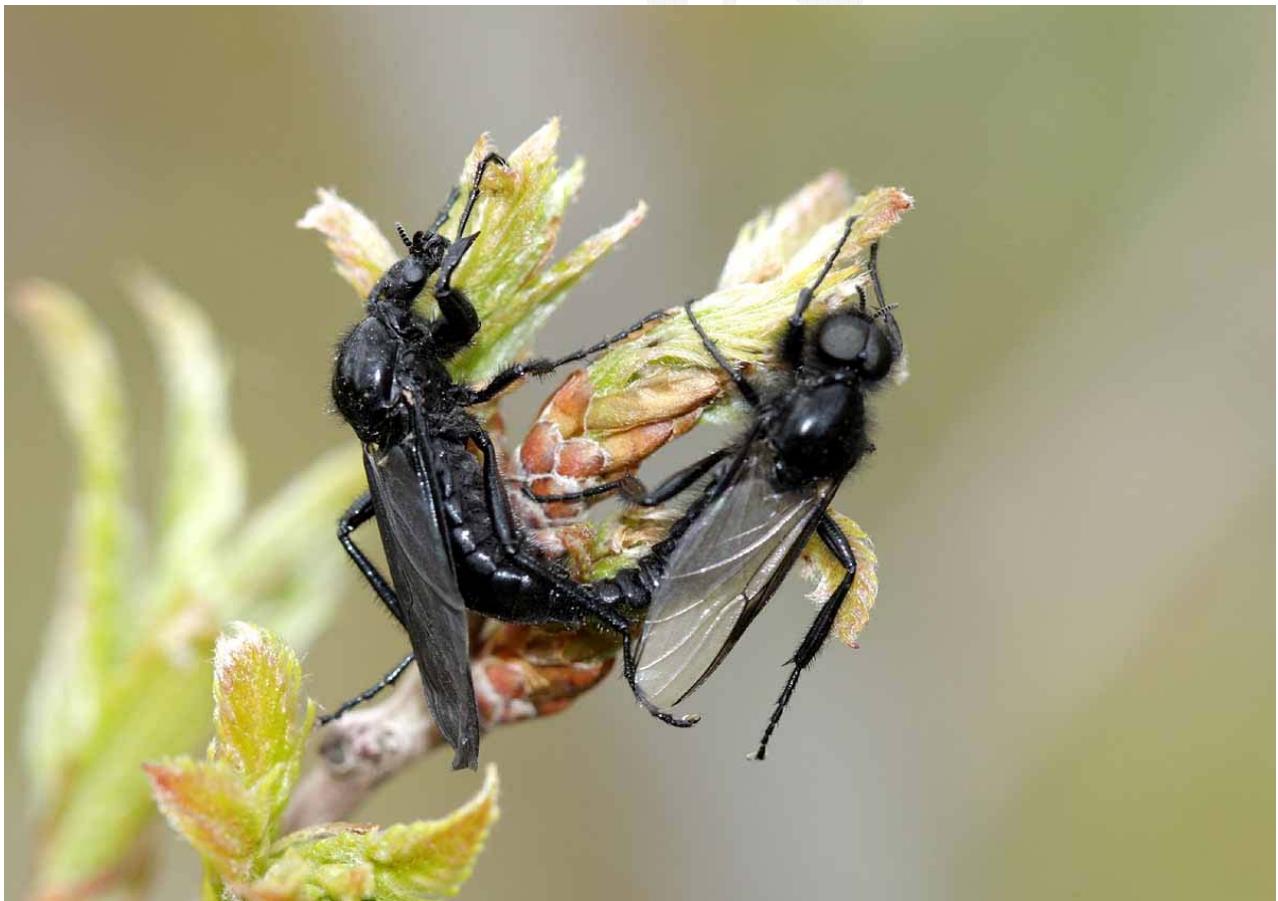


Fig. 63 - *Bibio marci* in copula (Bibionidae) from Turkey, Bitlis Prov., Mutki, Kavakbaşı yolu Tepeyayla 1700m 24 4 2010 photo M Kemal, det. A.Koçak (Cesa)



Fig. 64 - A Micropezidae⁶ from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal (Cesa) New faunistical record to Bitlis Province!



Fig. 65 - Coremacera sp. (Sciomyzidae)⁷ [dorsal view]from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal (Cesa) New faunistical record to Bitlis Province!

⁶ kindly identified by Dr.Valery Korneyev (Ukraine). The family is probably unknown in Turkey.

⁷ kindly identified by Dr.Valery Korneyev (Ukraine). The genus is currently represented by 5 species in Turkey (info-system of the Cesa). These are: *C. amoena*, *C. catenata*, *C. marginata*, *C. obscuripennis*, and *C. trivittata*.



Fig. 66 - *Coremacera* sp. (Sciomyzidae) [lateral view] from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 21 5 2010 photo M Kemal (Cesa)



Fig. 67 - A sciarid fly (Sciaridae) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal, [det. Paul Beuk] (Cesa)



Fig. 68 - *Schoenomyza litorella* (Muscidae) [det. Stephane Lebrun] Turkey Bitlis Prov., Mutki Dereyolu 1600m 25 4 2010 photo M.Kemal (Cesa) New faunistical record to Bitlis Province!



Fig. 69 - *Geomyza* sp. (Opomyzidae) from Turkey, Bitlis Prov., Mutki- Bitlis border 1700m 23 5 2010 photo M. Kemal (Cesa)



Fig. 70 - A Dagger fly (*Empididae*) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 21 5 2010 photo M Kemal, [det. Paul Beuk] (Cesa)



Fig. 71 - A Dagger fly (*Empididae*) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal, [det. Paul Beuk] (Cesa)



Fig. 72 - A Dagger fly (*Empididae*) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal, [det. Paul Beuk] (Cesa)



Fig. 73 - A *Rhagio* sp. (*Rhagionidae*) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal, [det. Paul Beuk] (Cesa)



Fig. 74 - *Haematopota italica* (Tabanidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo B. Bakan [det. Paul Beuk] (Cesa)



Fig. 75 - *Tephritis postica* (Tephritidae) on Asteraceae Turkey, Bitlis Prov., Mutki, Meydan 1000m 23 4 2010 photo M. Kemal (Cesa) **New faunistical record to Bitlis Province!**



Fig. 76 - *Tephritis myia lauta* (Tephritidae) Turkey, Bitlis Prov., Mutki, Meydan 1000m 23 4 2010 photo M. Kemal (Cesa) New faunistical record to Bitlis Province!



Fig. 77 - *Tephritis merzi* in copula (Tephritidae) Turkey, Bitlis Prov., Mutki, Meydan 1000m 23 4 2010 photo M. Kemal (Cesa) New faunistical record to Bitlis Province!



Fig. 78 - *Heringina guttata* (Tephritidae) from Turkey, Bitlis Prov., Mutki- Bitlis border 1700m 23 5 2010 photo M. Kemal (Cesa)

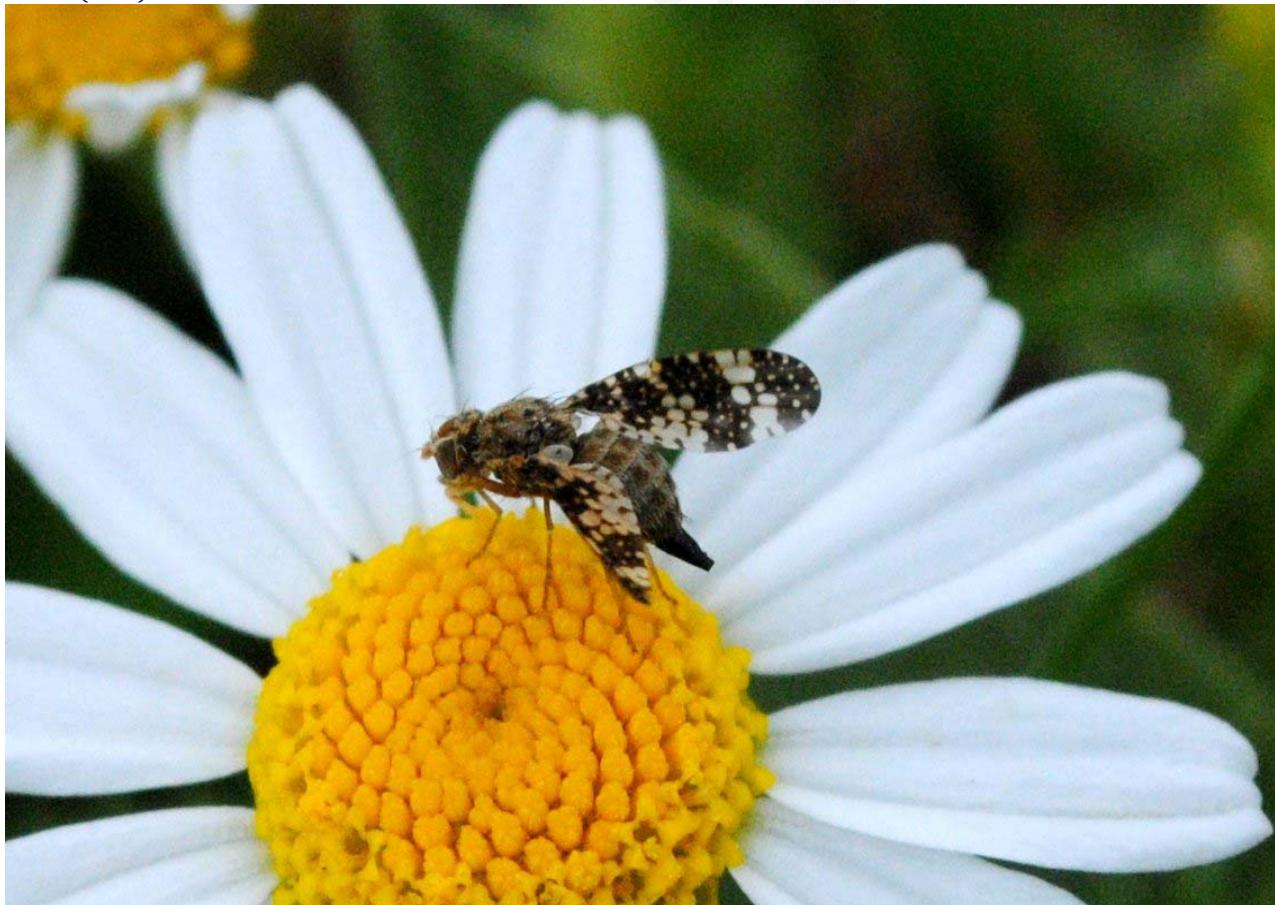


Fig. 79 - *Oxyna nebulosa* (Tephritidae) [det. V. Korneyev] Turkey, Bitlis Prov., Mutki- Bitlis border 1700m 23 5 2010 photo B. Bakan (Cesa)

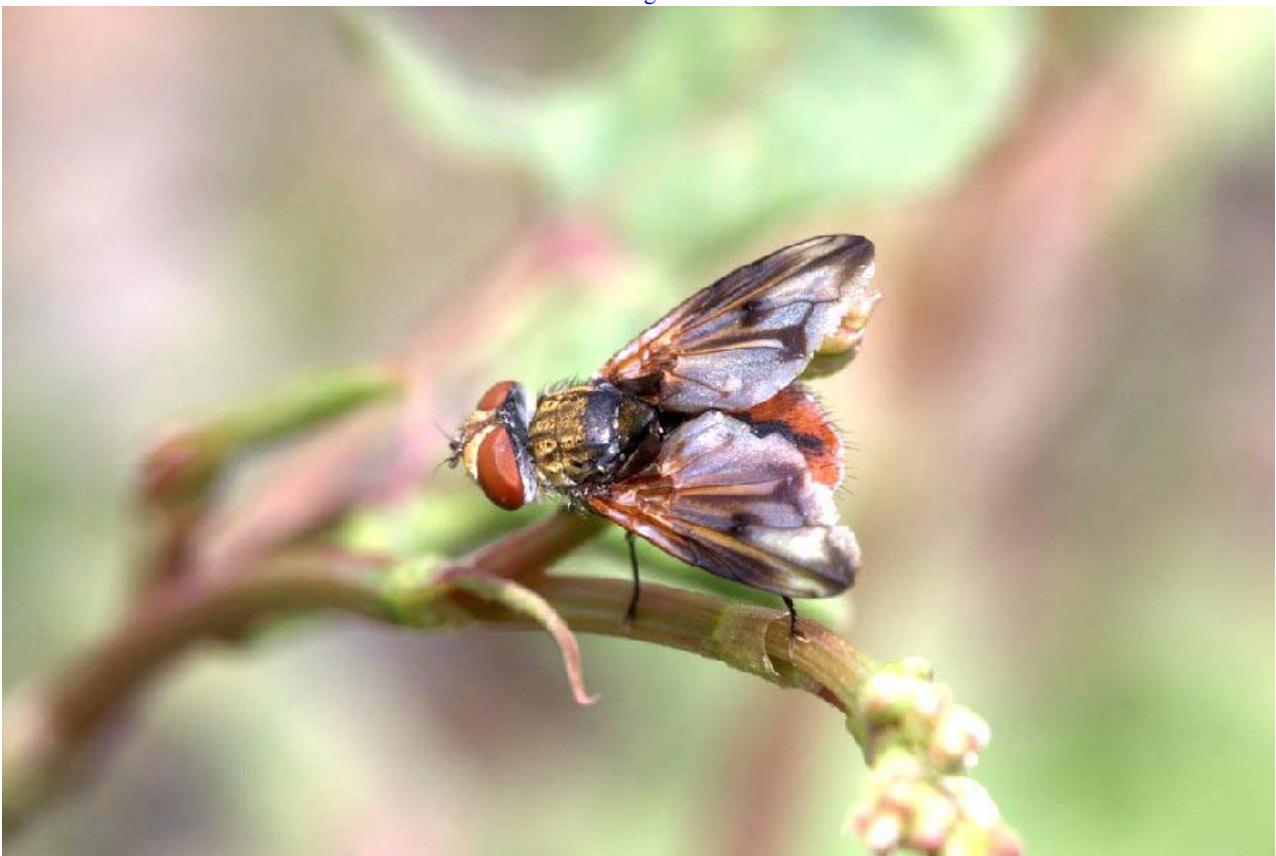


Fig. 80 - A male *Ectophasia* ? *crassipennis* (Tachinidae, Phasiinae)⁸ from Turkey, Bitlis Prov., Mutki, near Çaygeçit, Selale 1300m 23 4 2010 photo D. Çelikkaya (Cesa) **New faunistical record to Bitlis Province!**



Fig. 81 - A *Ectophasia* sp. (Tachinidae, Phasiinae)⁹ from Turkey, Bitlis Prov., Mutki, Çaygeçit, 1260m 22 5 2010 photo M. Kemal (Cesa)

⁸ kindly identified by Chris Raper - chris.raper@tachinidae.org.uk

⁹ kindly identified by Paul Beuk & Chris Raper

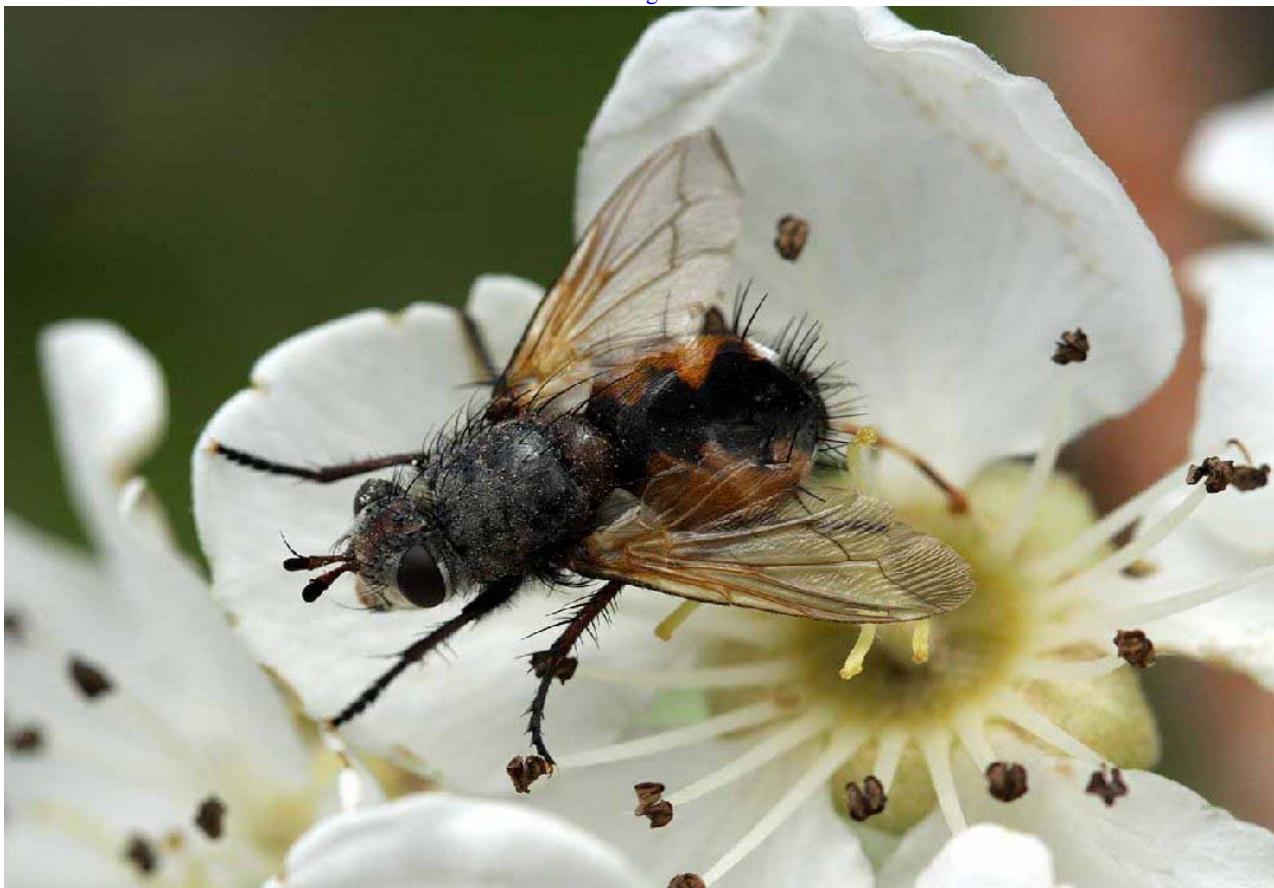


Fig. 82 - A *Nowickia* sp. (Tachinidae) from Turkey, Bitlis Prov., Mutki Kavakbaşı yolu Tepeyayla 1700m 24 4 2010 photo M. Kemal (Cesa) [det. Chris Raper] [note: identification are usually based upon only the photograph as in the present case. As we could not send the material to the specialists, the identifications of most the taxa were confined often to generic level]



Fig. 83 - *Tachina lurida* (Tachinidae)¹⁰ from Turkey Bitlis prov. Mutki Meydan yolu 1270m, 19 3 2010 photo M Kemal (Cesa) **New faunistical record to Bitlis Province!**

¹⁰ This species was kindly identified by Chris Raper and Theo Zeegers. th.zeegers@xs4all.nl - The adult flies visit frequently *Salix* flowers together with *Anthophora* bees in early spring.



Figs. 84-87 - Probably a *Carcelia* species (Tachinidae) [det.Zeegers], obtained from a fully developed Tiger moth caterpillar (Arctiidae) from Turkey, Bitlis Prov., Mutki Beyazsu 1400m 21 3 2010 M.Kemal photo (Cesa)



Fig. 88 - *Gymnosoma* sp. (Tachinidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit, 1260m 22 5 2010 photo M. Kemal [det. Chris Raper] (Cesa)



Fig. 89 - *Helina* sp. (Muscidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit, 1260m 22 5 2010 photo M. Kemal [det. R. Thomason & Stephane Lebrun] (Cesa)

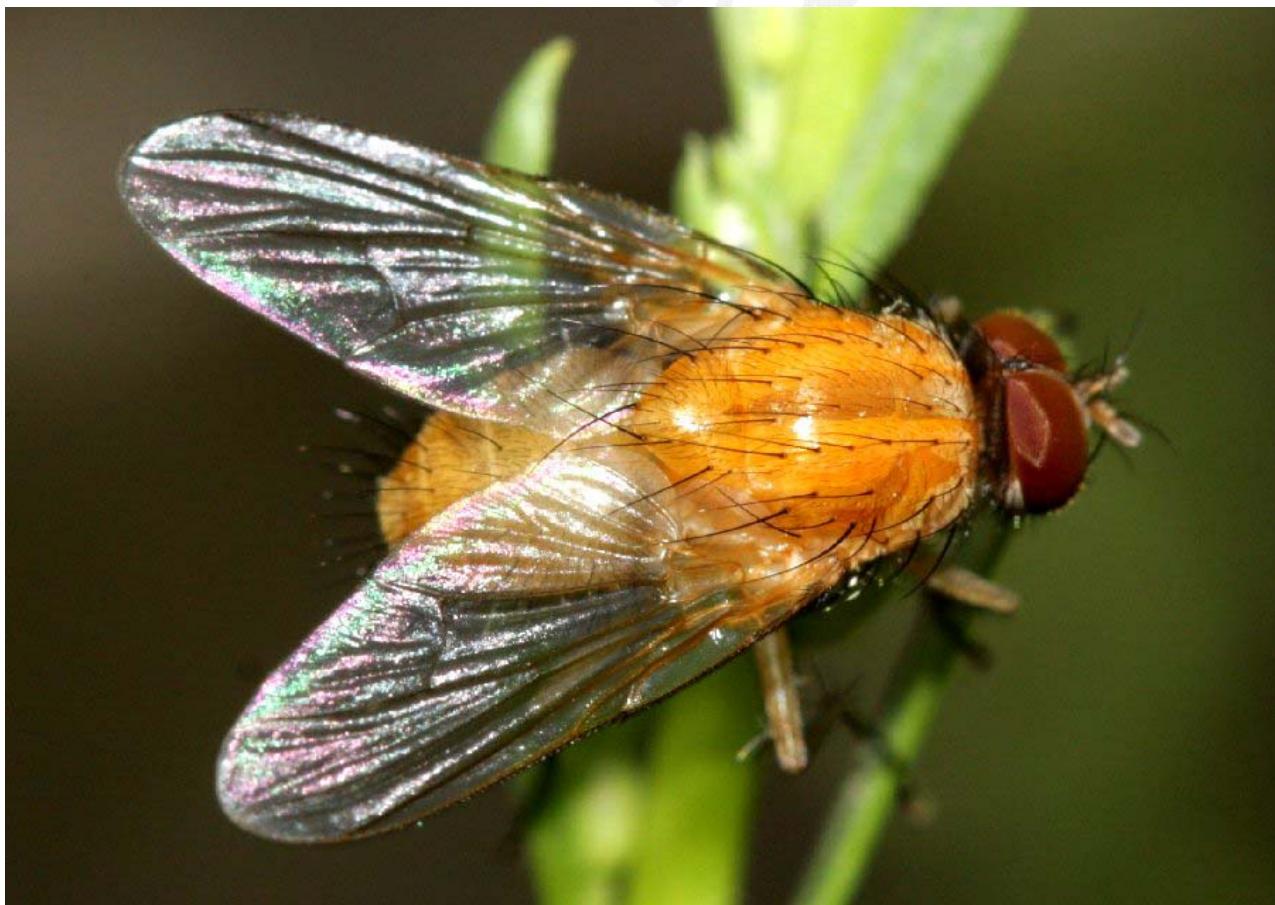


Fig. 90 - *Phaonia pallida* (Muscidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit, 1260m 22 5 2010 photo M. Kemal [det. Stephane Lebrun] (Cesa) **New faunistical record to Bitlis Province!**



Fig. 91 - *Pollenia* sp. (*Calliphoridae*) from Turkey, Bitlis Prov., Mutki, Çaygeçit, 1260m 22 5 2010 photo M. Kemal [det. Stephane Lebrun] (Cesa)



Fig. 92 - A female *Anthomyia* sp. (*Anthomyiidae*) from Turkey, Bitlis Prov., Mutki, Çaygeçit, 1260m 22 5 2010 photo M. Kemal, [det. Stefane Lebrun] (Cesa)

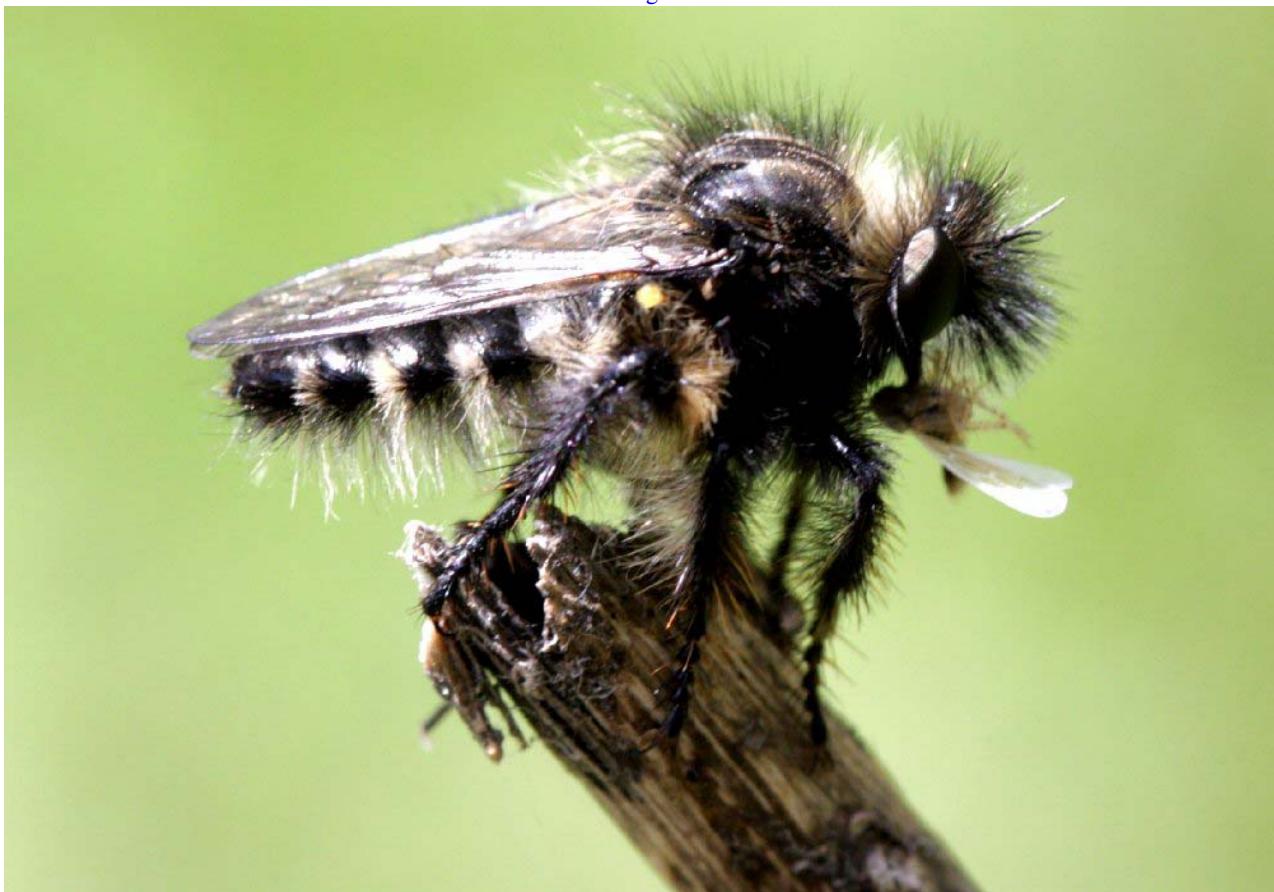


Fig. 93 - A Robberfly feeding on a cicadellid (Asilidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit, 1260m 21 5 2010 photo M. Kemal, [det. Paul Beuk] (Cesa)

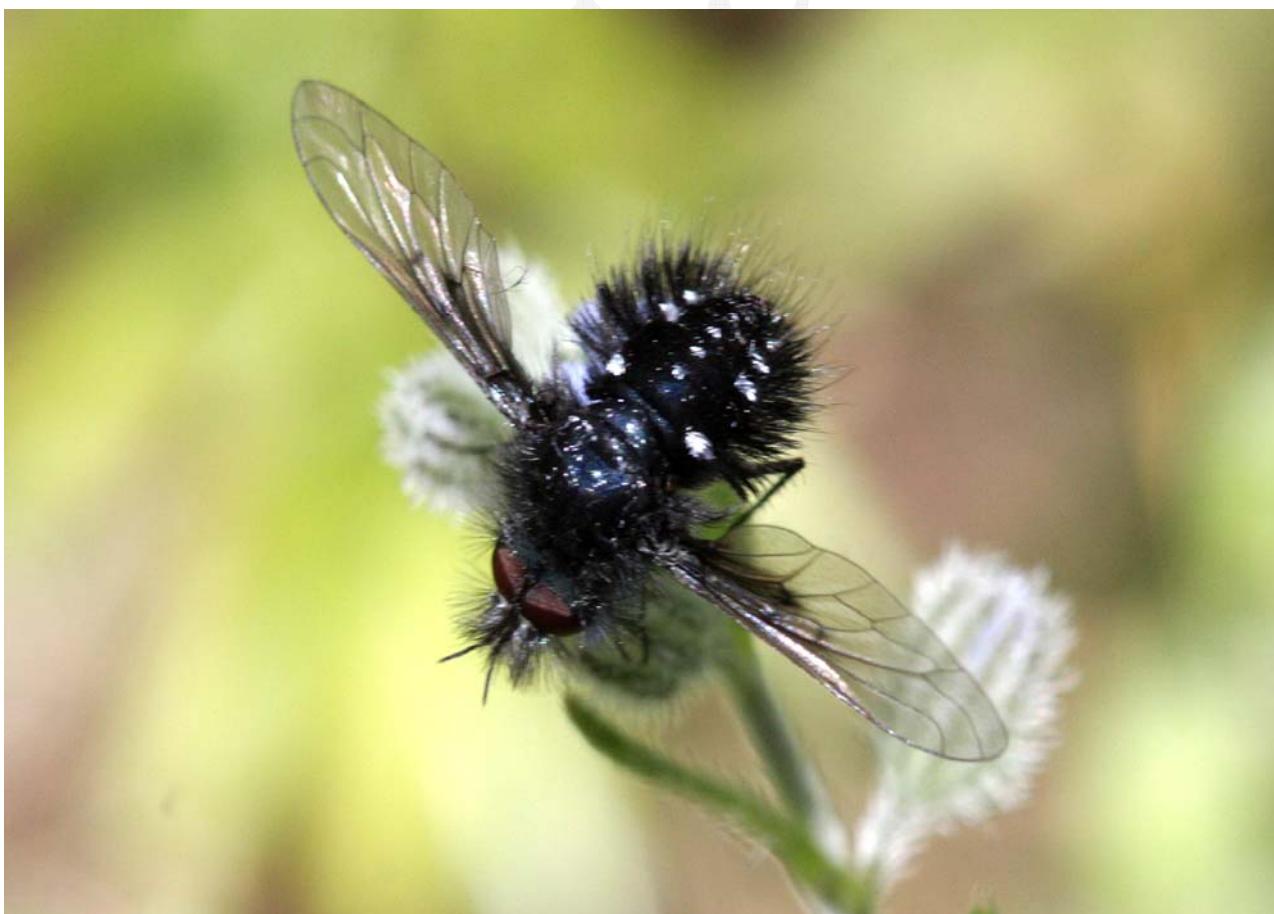


Fig. 94 - A male *Bombylrella atra* (Bombyliidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit, 1260m 21 5 2010 photo M. Kemal, det. A.Koçak (Cesa) **New faunistical record to Bitlis Province!**



Fig. 95 - A male *Chalcochiton pallasii* (Bombyliidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit, 1260m 21 5 2010 photo M. Kemal, det. A.Koçak (Cesa) **New faunistical record to Bitlis Province!**



Fig. 96 - A female ?*Conophorus* sp. (Bombyliidae) from Turkey, Bitlis Prov., Mutki, Meydan 1000m 23 4 2010 photo M. Kemal (Cesa)



Fig. 97 - *Lomatia* sp. (Bombyliidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit, 1260m 22 5 2010 photo M. Kemal (Cesa)



Fig. 98 - A female *Usia* sp. (Bombyliidae) from Turkey, Bitlis Prov., Mutki, Meydan 1000m 23 4 2010 photo M. Kemal (Cesa) [Note: compare with an undescribed species: http://www.diptera.info/photogallery.php?photo_id=3120]

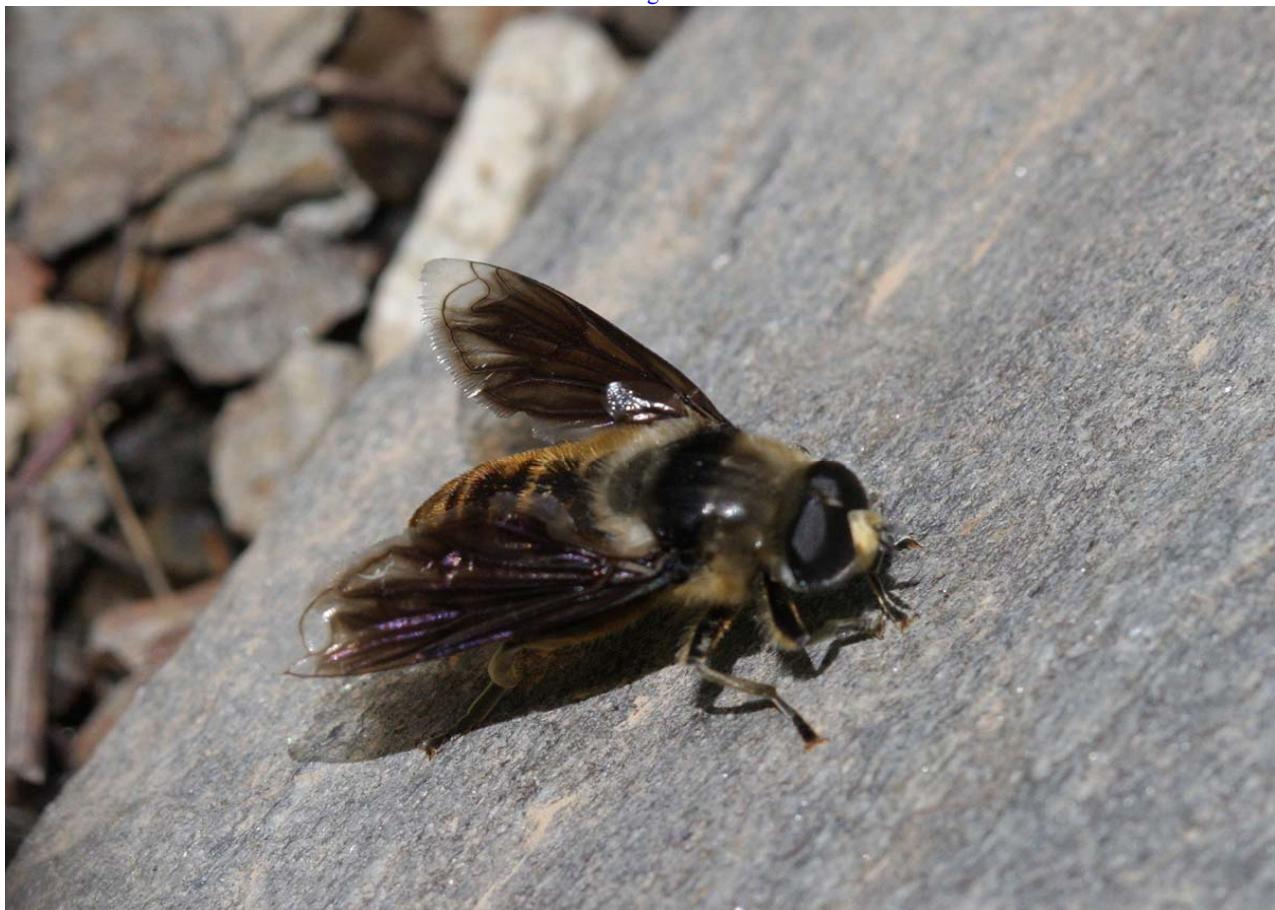


Fig. 99 - *Merodon velox* (Syrphidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit, 1260m 22 5 2010 photo & det. M. Kemal (Cesa) **New faunistical record to Bitlis Province!**



Fig. 100 - *Merodon velox* (Syrphidae) captured by a Crab Spider (Thomisidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit, 1260m 22 5 2010 photo & det. M. Kemal (Cesa)



Fig. 101 - *Xylota ignava* (Syrphidae) [det. André van Eck] from Turkey, Bitlis Prov., Mutki, Çaygeçit, 1260m 22 5 2010 photo M. Kemal & M.Yalçın (Cesa) **New faunistical record to Turkey!**



Fig. 102 - *Syrphus ribesii* (Syrphidae) [det. André van Eck] from Turkey, Bitlis Prov., Mutki, Çaygeçit, 1260m 22 5 2010 photo M. Kemal (Cesa) **New faunistical record to Bitlis Province!**

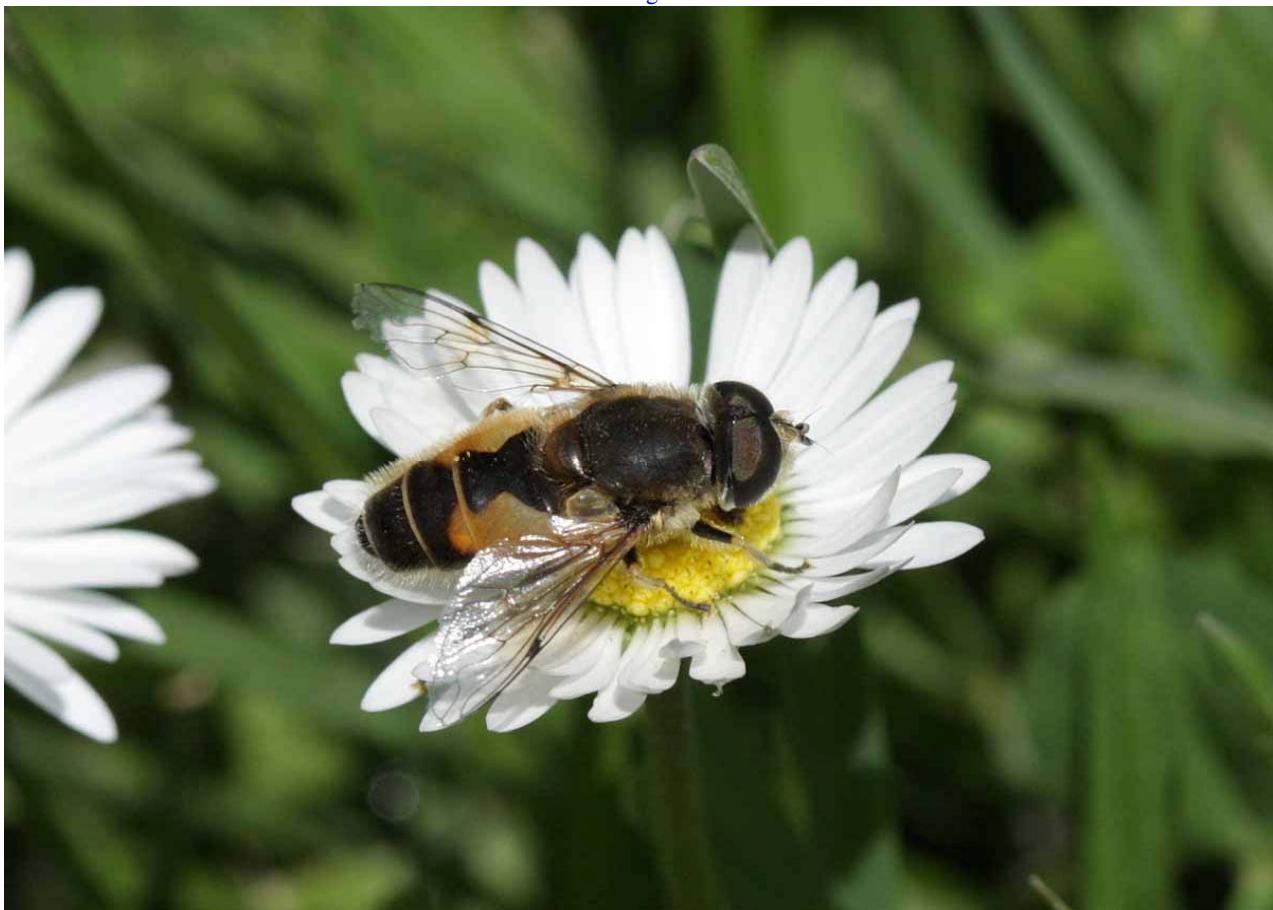


Fig. 103 - *Eristalis arbustorum* (Syrphidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit, 1260m 22 5 2010 photo & det. M. Kemal (Cesa) **New faunistical record to Bitlis Province!**



Fig. 104 - *Episyrphus balteatus* (Syrphidae) from Turkey, Bitlis Prov., Mutki, Meydan 1000m 23 4 2010 photo & det. M. Kemal (Cesa) **New faunistical record to Bitlis Province!**



Fig. 105 - *Chrysotoxum parmense* [det. André van Eck] (Syrphidae) from Turkey, Bitlis Prov., Mutki, Çaygeçit, 1260m 22.5.2010 photo M. Kemal (Cesa)



Fig. 106 - *Sphaerophoria scripta* (female) (Syrphidae) from Turkey, Bitlis Prov., Mutki, Meydan 1000m 23.4.2010 photo & det. M. Kemal (Cesa) **New faunistical record to Bitlis Province!**



Fig. 107 - *Eucera* sp. (Apidae, Apinae, Eucerini) from Turkey, Bitlis Prov., Mutki, Çaygeçit, 1260m 22 5 2010 photo M. Yalçın, det. A.Koçak (Cesa)



Fig. 108 - *Anthophora* sp. (Apidae) from Turkey, Bitlis Prov., Mutki, 1270m 19 3 2010 photo M. Kemal (Cesa)



Fig. 109 - *Bombus* sp. (Apidae) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal (Cesa)



Fig. 110 - *Ancistrocerus* sp. (Vespidae) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal, det. A.Koçak (Cesa)



Fig. 111 -? *Eumenes* sp. (Eumenidae) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal (Cesa)



Fig. 112 - A pompilid bee (Pompilidae) from Turkey, Bitlis Prov., Mutki, Şelale 1300m 24 4 2010 photo M. Kemal (Cesa)



Figs. 113 -114 *Andricus polycerus* (Cynipidae) Turkey, Bitlis Prov., Mutki 1400m 19 3 2010 photo M.Kemal (Cesa)¹¹



Figs. 115-116 *Andricus tomentosus* (Cynipidae) Turkey, Bitlis Prov., Mutki 1400m 19 3 2010 photo M.Kemal (Cesa)



Figs. 117-118 *Andricus askewi* (Cynipidae) Turkey, Bitlis Prov., Mutki 1400m 19 3 2010 photo M.Kemal (Cesa)

¹¹ All Cynipidae galls were determined by Dr. George Melika.



Fig. 119 - *Aphelonyx cerricola* (Cynipidae) Turkey, Bitlis Prov., Mutki 1400m 19 3 2010 photo M.Kemal (Cesa)



Fig. 120 - *Aphelonyx persica* (Cynipidae) Turkey, Bitlis Prov., Mutki 1400m 19 3 2010 photo M.Kemal (Cesa)



Fig. 121 - *Andricus caputmedusae* (Cynipidae) Turkey, Bitlis Prov., Mutki 1400m 19 3 2010 photo M.Kemal (Cesa)



Fig. 122 - A Soldier beetle (Cantharidae) from Turkey, Bitlis Prov., Mutki, Meydan yolu Şelale 1300m 21 5 2010 photo M Kemal (Cesa)



Fig. 123 - An Dasytid beetle (Dasytidae) from Turkey, Bitlis Prov., Mutki, Meydan yolu Şelale 1300m 21 5 2010 photo M Kemal (Cesa)



Fig. 124 - *Malachius scutellaris* on *Sanguisorba* (Melyridae) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal, det.A.Koçak (Cesa) **New to Bitlis Province!**



Fig. 125 - *Malachius* sp. on *Sanguisorba* (Melyridae) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal (Cesa)



Fig. 126 - A checkered beetle (Cleridae) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal (Cesa)



Fig. 127 - A Blister beetle, *Meloe* sp. (Meloidae) Turkey, Bitlis Prov., Mutki, Meydan yolu Şelale 1300m 21 5 2010 photo B. Bakan, det. M Kemal (Cesa)



Fig. 128 - A Click Beetle (Elateridae) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal (Cesa)



Fig. 129 - A *Labidostomis* ? sp. beetle (Chrysomelidae, Clytrinae) from Turkey, Bitlis Prov., Mutki, Kavakbaşı yolu Tepeyayla 1700m 21 5 2010 photo M Kemal (Cesa)



Fig. 130 - A *Cryptocephaline* beetle (Chrysomelidae) from Turkey, Bitlis Prov., Mutki- Bitlis border 1700m 23 5 2010 photo M. Kemal (Cesa)



Fig. 131 - *Gonioctena linneana* (Chrysomelidae, Chrysomelinae) Turkey, Bitlis Prov., Mutki Dereyolu 1600m 24 4 2010
photo D.Çelikkaya det. (Cesa) **New to Bitlis Province!**



Fig. 132 - *Phytoecia virgula* (Cerambycidae, Lamiinae, Phytoeciini) Turkey, Bitlis Prov., Mutki, Meydan yolu Şelale 1300m 23 4 2010 photo D. Çelikkaya det. A. Koçak (Cesa)



Fig. 133 - *Pedostrangalia emmipoda* (Cerambycidae, Lepturinae, Lepturini). Turkey, Bitlis Prov., Mutki, Kavakbaşı yolu Tepeyayla 1700m 21 5 2010 photo M Kemal (Cesa) **New to Bitlis Province!**



Fig. 134 - *Helladia* sp. (Cerambycidae) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal, det.A.Koçak (Cesa) **New to Bitlis Province!**



Fig. 135 - *Agapanthia frivaldskyi* (Cerambycidae) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal (Cesa)



Fig. 136 - *Agapanthia* sp. (Cerambycidae) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal (Cesa)



Fig. 137 - *Agapanthia walteri* (Cerambycidae) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal det A.Koçak (Cesa) **New to Bitlis Province!**



Fig. 138 - *Agapanthia kirbyi* (Cerambycidae) Turkey, Bitlis Prov., Mutki, Meydan yolu Şelale 1300m 21 5 2010 photo M Yalçın det A.Koçak (Cesa) **New to Bitlis Province!**



Fig. 139 - A nymph of *Geocoris* sp. (Miridae) and *Agapanthia* sp. (Cerambycidae) from Turkey, Bitlis Prov., Mutki-Bitlis border 1700m 23.5.2010 photo M. Kemal (Cesa)



Fig. 140 - *Opsilia coerulescens* (Cerambycidae, Lamiinae, Phytoeciini) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22.5.2010 photo M. Kemal, det. A. Koçak (Cesa) **New to Bitlis Province!**



Fig. 141 - *Oxylia argentata* (Cerambycidae, Lamiinae, Phytoeciini) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo M Kemal, det.A.Koçak (Cesa) **New to Bitlis Province!**



Fig. 142 - An Attelabid beetle on *Quercus* (Fagaceae) from Turkey, Bitlis Prov., Mutki, Kavakbaşı yolu Tepeyayla 1700m 21 5 2010 photo M Kemal (Cesa)



Fig. 143 – *Rhynchites hungaricus* (Attelabidae) on *Rosa* (Rosaceae) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22.5.2010 photo M Kemal (Cesa)



Fig. 144 - *Lixus* sp. (Curculionidae, Lixiinae, Lixiini) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22.5.2010 photo & det. M Kemal (Cesa)



Fig. 145 - *Larinus* sp. (Curculionidae, Lixiinae, Lixiini) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo & det. M Kemal (Cesa)



Fig. 146 - A Rose Chafer, *Cetonia aurata* (Scarabaeidae) on *Quercus* (Fagaceae) from Turkey, Bitlis Prov., Mutki, Kavakbaşı yolu Tepeyayla 1700m 21 5 2010 photo M Kemal (Cesa) **New faunistical record to Bitlis Province!**



Fig. 147 - *Oxythyrea cinctella* (Scarabaeidae) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo & det. M Kemal (Cesa)

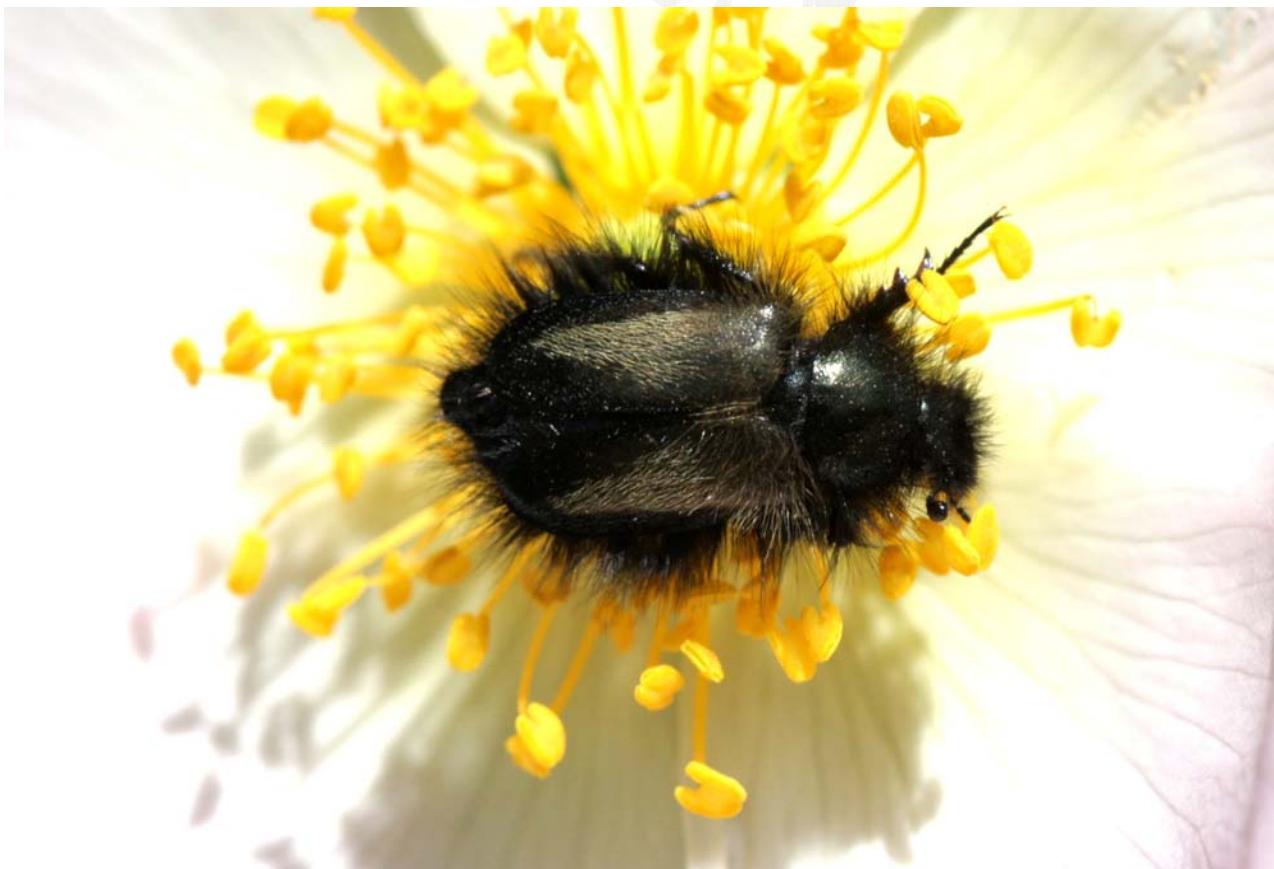


Fig. 148 - *Amphicoma* sp (Glaphyridae) on *Rosa* Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo & det. M Kemal (Cesa)



Fig. 149 – *Trachys minuta* in copula (Buprestidae, Agrilinae, Trachini) Turkey, Bitlis Prov., Mutki, Çaygeçit 1260m 22 5 2010 photo & det. M Kemal (Cesa) **New faunistical record to Bitlis Province!**



Fig. 150 - A *Tachyporus* sp. (Staphylinidae) beetle from Turkey, Bitlis Prov., Mutki, Meydan yolu Şelale 1300m 21 5 2010 photo & det. M Kemal (Cesa)

Announcement

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The titles of the articles of this issue are given below:

Koçak,A.Ö. & M.Kemal, 2010, Nomenclatural notes on the genus group name in Phasmida. *Cent. ent. Stud., Misc. Pap.* 151: 1.

Koçak,A.Ö. & M.Kemal, 2010, Further nomenclatural notes on the genus group names in *Orthoptera*. *Cent. ent. Stud., Misc. Pap.* 151: 2-3.

Koçak,A.Ö. & M.Kemal, 2010, Nomenclatural notes on some genus group names of the order *Hymenoptera*. *Cent. ent. Stud., Misc. Pap.* 151: 3-4.

Koçak,A.Ö. & M.Kemal, 2010, Nomenclatural note on the genus group name of the family *Lygaeidae* (*Hemiptera*). *Cent. ent. Stud., Misc. Pap.* 151: 5.

Koçak,A.Ö. & M.Kemal, 2010, Nomenclatural notes on the genus group names of the order *Diptera*. *Cent. ent. Stud., Misc. Pap.* 151: 5-7.



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